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Attorney's Docket No. 5577-234

DEC 01 2005

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Aiken *et al.*

Serial No.: 09/862,642

Filed: May 22, 2001

For: **METHODS, SYSTEMS AND COMPUTER PROGRAM PRODUCTS FOR
SOURCE ADDRESS SELECTION**

Confirmation No.: 8726

Group Art Unit: 2154

Examiner: Aaron C. Perez Daple

Date: December 1, 2005

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Erin A. Campion**TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION--37 C.F.R. § 41.37)**1. Transmitted herewith is the APPEAL BRIEF for the above-identified application,
pursuant to the Notice of Appeal filed on September 29, 2005.2. This application is filed on behalf of
☐ a small entity.

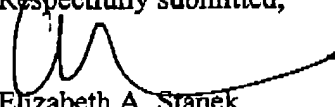
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Respectfully submitted,


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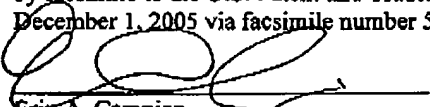
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APPELLANTS' BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

Sir:

This Appeal Brief is filed pursuant to the "Notice of Appeal to the Board of Patent Appeals and Interferences" mailed September 29, 2005.

Real Party In Interest

The real party in interest is assignee International Business Machines Corporation, Armonk, New York.

Related Appeals and Interferences

Appellants are aware of no appeals or interferences that would be affected by the present appeal.

Status of Claims

Appellants appeal the final rejection of Claims 1-27, which as of the filing date of this Brief remain under consideration. The attached Appendix A presents the claims at issue as finally rejected in the Final Office Action of June 30, 2005 (hereinafter "Final Office Action") and the Advisory Action of September 26, 2005 (hereinafter "Advisory Action").

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Status of Amendments

The attached Appendix A presents the pending claims and each of the pending claims' corresponding status. All amendments in the present case have been entered.

Summary of the Claimed Subject Matter

The present application includes rejected Independent Claims 1, 5, 15 and 24-27. The claims are method, system and computer program product claims. Independent Claim 1 is directed to a method of establishing a connection originated by an application executing on a data processing system in a cluster of data processing systems. Such methods may be provided by the following steps carried out by a data processing system executing the application. A dynamic network address is associated with the application at the data processing system on which the application is executing. *See* Specification, page 7, lines 29-31. It is determined, at the data processing system executing the application, if a received request for the data processing system to originate a connection is associated with the application. *See* Specification, page 7, lines 32-34. The connection is established from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application. *See* Specification, page 7, line 34 to page 8, line 2.

Independent Claim 24 is a system claim corresponding to Claim 1. The structure corresponding to the "means for associating a dynamic network address with the application at the data processing system on which the application is executing" is provided by, for example, a server 52 or 54 illustrated in Figure 1. *See* Specification, page 18, line 25 to page 19, line 6. The structure corresponding to the "means for determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application" may be provided by, for example, a server 52 or 54 illustrated in Figure 1. *See* Specification, page 18, line 25 to page 19, line 6. Finally, the structure corresponding to the "means for establishing the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address

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for the connection if the request is associated with the application" may be provided by, for example, a server 52 or 54 illustrated in Figure 1. *See Specification*, page 18, line 25 to page 19, line 6.

Independent Claim 26 is a computer program product corresponding to Claim 1.

Independent Claim 5 is directed to a method of selecting a source address for a connection originated by an application executing on a data processing system in a cluster of data processing system. Such methods may be provided by associating a dynamic virtual IP address (DVIPA) with the application at a communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application. *See Specification*, page 8, line 34 to page 9, line 8.

Independent Claim 25 is a system claim corresponding to Claim 5. The structure corresponding to the "means for associating a dynamic virtual IP address (DVIPA) with the application at the communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application" is provided by, for example, a server 52 or 54 illustrated in Figure 1. *See Specification*, page 18, line 25 to page 19, line 6.

Independent Claim 27 is a computer program product corresponding to Claim 5.

Independent Claim 15 is directed to a system for establishing a connection between an application and a client. Such a system includes a cluster of data processing systems. The application executes on a data processing system in the cluster of data processing systems. *See Specification*, page 10, lines 27-30. A communication protocol stack on the data processing system in the cluster of data processing systems is executing the application. *See Specification*, page 10, lines 30-32. The communication protocol stack is configured to associate a dynamic virtual Internet protocol address (DVIPA) with the application so that the DVIPA is utilized as a source address for a connection request from the application. *See Specification*, page 10, line 36 to page 11, line 3.

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Dependent Claims 2 and 7 are directed to a method further provided by determining if the application has specified a network address for the requested connection. *See* Specification, page 8, lines 3-5. The specified network address is utilized to establish the connection if the application has specified a network address. *See* Specification, page 8, lines 5-7. The associated dynamic network address is selectively utilized as the source address for the connection if the application has not specified a network address for the requested connection. *See* Specification, page 8, lines 8-11.

Dependent Claim 16 is a system claim corresponding to Claims 2 and 7.

Grounds of Rejection to Be Reviewed on Appeal

1. Claims 1-4, 24 and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by "The Next Step in Server Load Balancing" from Alteon Web Systems (hereinafter "Alteon").
2. Claims 5-13, 15-22, 25 and 27 stand rejected under 35 U.S.C. § 103 as obvious in light of Alteon in view of United States Patent No. 6,252,878 to Locklear, Jr. *et al.* (hereinafter "Locklear").
3. Claims 14 and 23 stand rejected under 35 U.S.C. § 103 as obvious in view of Locklear, Alteon and Appellants' Alleged Admitted Prior Art regarding the OS/390 Sysplex.
4. Claims 1-4, 24 and 26 stand rejected under 35 U.S.C. § 112 as failing to comply with the written description requirement.

Argument

I. Introduction

Claims 1-4, 24 and 26 are rejected under 35 U.S.C. § 102. Under 35 U.S.C. § 102, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." M.P.E.P. § 2131 (quoting *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir.

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1987)). "Anticipation under 35 U.S.C. § 102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention." *Apple Computer Inc. v. Articulate Sys. Inc.*, 57 U.S.P.Q.2d 1057, 1061 (Fed. Cir. 2000). "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" M.P.E.P. § 2112 (citations omitted).

A finding of anticipation further requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Foundation v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). In particular, the Court of Appeals for the Federal Circuit held that a finding of anticipation requires absolute identity for each and every element set forth in the claimed invention. *See Trintec Indus. Inc. v. Top-U.S.A. Corp.*, 63 U.S.P.Q.2d 1597 (Fed. Cir. 2002). Additionally, the cited prior art reference must be enabling, thereby placing the allegedly disclosed matter in the possession of the public. *In re Brown*, 329 F.2d 1006, 1011, 141 U.S.P.Q. 245, 249 (C.C.P.A. 1964). Thus, the prior art reference must adequately describe the claimed invention so that a person of ordinary skill in the art could make and use the invention.

Claims 5-23, 25 and 27 are rejected as obvious under 35 U.S.C. § 103. To establish a prima facie case of obviousness, the prior art reference or references when combined must teach or suggest *all* the recitations of the claims, and there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. M.P.E.P. §2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. §2143.01, citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). As emphasized

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by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular**, and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999). The Court of Appeals for the Federal Circuit has further stated that, to support combining or modifying references, there must be **particular** evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000).

Claims 1-4, 24 and 26 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. *See, e.g., Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 U.S.P.Q.2d 1429, 1438 (Fed. Cir. 2003). The possession test requires assessment from the viewpoint of one of skill in the art. *See Vas-Cath Inc. v. Mahurkar*, 935 F.3d 1306, 1563-64, 19 U.S.P.Q.2d 1111 (Fed. Cir. 1991). "The written description requirement does not require the applicant 'to describe exactly the subject matter claimed, [instead] the description must clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed' " *Union Oil Co. of Cal. v. Atlantic Richfield Co.*, 208 F.3d 989, 997, 54 U.S.P.Q.2d 1227, 1232 (Fed. Cir. 2000)

Appellants respectfully submit that the pending claims are patentable over the cited references because the cited references fail to disclose or suggest the recitations of the pending claims and/or the reasoning behind the alleged motivation to modify the cited reference has not been established. Furthermore, Appellants submit that the pending claims are in compliance with 35 U.S.C. § 112, first paragraph.

II. The Section 102 Rejections

A. Independent Claims 1, 24 and 26 are Patentable over the Cited Reference

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As discussed above, Claims 1-4, 24 and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Alteon. *See* Final Office Action, page 3, paragraph 8. Appellants respectfully disagree. For example, Claim 1 recites:

A method of establishing a connection originated by an application executing on a data processing system in a cluster of data processing systems, the method comprising the following carried out by the data processing system executing the application:
associating a dynamic network address with the application at the data processing system on which the application is executing;
determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application; and
establishing the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application.

Claims 24 and 26 contain corresponding system and computer program product recitations, respectively. Appellants respectfully submit that at least the highlighted recitations are neither disclosed nor suggested by Alteon.

As a preliminary note, the Final Office Action contains "Examiner's Interpretation" sections on pages 3 and 6 thereof. This portion of the Office Action states:

The Examiner interprets that Alteon teaches originating the connection at the application executing on the data processing system, because originating *the connection* does not necessarily require originating *the connection request*. In other words, Alteon teaches that the client originates the connection request (see pg. 1, Overview and pg. 5, TCP/IP Server Load-Balancing Operation). However, the connection itself is not established until the application sends a response to the client, which response includes the binding VIP address. Therefore the connection itself originates at the application.

See Final Office Action, page 3, paragraph 9 and page 6 paragraph 16 (emphasis in original). Appellants respectfully submit that the stated interpretation is improper and that the Examiner cannot just interpret the references in such a way so that the teachings read on the pending claims. Appellants submit that interpreting responding to a connection request from a client as "establishing the connection from the data processing system executing the application" is not a reasonable interpretation of the claim recitations and ignores the plain language of the claims.

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Furthermore, as discussed above, a finding of anticipation requires that there must be no difference between the claimed invention and the disclosure of the cited reference as viewed by one of ordinary skill in the art. *See Scripps Clinic & Research Foundation v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991). In particular, the Court of Appeals for the Federal Circuit held that a finding of anticipation requires absolute identity for each and every element set forth in the claimed invention. *See Trintec Indus. Inc. v. Top-U.S.A. Corp.*, 63 U.S.P.Q.2d 1597 (Fed. Cir. 2002). One of ordinary skill in the art would not interpret responding to a connection request from a client to be absolutely identical to "establishing a connection from the data processing system executing the application." Thus, nothing in Alteon discloses or suggests establishing a connection as recited in Claim 1 for at least these reasons.

The Final Office Action states that each recitation of Claim 1 is taught by Pages 1 and 5 of Alteon. *See* Final Office Action, page 4, paragraph 10. Appellants respectfully disagree. In particular, Alteon discusses load balancing, *i.e.*, distributing the load across a group of servers running a common application. *See* Alteon, page 1, Overview, paragraph 1. As discussed in Alteon, a switch receives connection requests from a client. The switch forwards the connection requests to a server (running an application) based on knowledge of the servers availability, load handling capability and present load. *See* Alteon, Overview, paragraph 2. Once the connection has been established (the session has been established), "the packets are processed and forwarded appropriately to make sure that the client continues to be associated with the same physical sever for the duration of the session." *See* Alteon, page 1, Overview, paragraph 3. In particular, the switch binds a session to the server's real IP address. *See* Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 1. The switch maintains a binding table, which maps the virtual IP address associated with the session to the real IP address of the server. *See* Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 1. The switch "performs address substitution so that the real server will transparently receive packets for that session." *See* Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 2 (emphasis added). The switch sits between the client and the server or group of servers, therefore, the switch may perform address substitution in both directions. *See* Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 4.

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In contrast, Claim 1 recites associating a dynamic network address with the application at the data processing system on which the application is executing. Thus, the dynamic network address is associated with the application at the data processing system (server) executing the application. As discussed above, Alteon assigns and substitutes the virtual IP address at the switch and this substitution is transparent to the server. Thus, Alteon not only discusses the association at the switch, not at the server, but the server is not even aware of the association. Accordingly, nothing in the cited portion of Alteon appears to disclose or suggest associating a dynamic network address as recited in Claim 1.

The "Response to Arguments" section of the Final Office Action states that "the Examiner interprets the web switch as part of the 'cluster of data processing systems executing the application.'" See Final Office Action, page 13. Appellants, once again, respectfully submit that the Examiner cannot just "interpret" portions of a reference to read on the claims. Anticipation requires each and every element of the claims to be taught by a single reference. Furthermore, the switch of Alteon cannot be one of the servers of Alteon as the substitution of Alteon is "transparent" to the server. If the switch and the server were one and the same, this could not be the case. Furthermore, if the switch and the server were one and the same, why would the switch substitute a VIP address for its own real IP address? Accordingly, Appellants respectfully submit that Claim 1 is patentable over Alteon for at least these additional reasons.

Claim 1 further recites determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application. Thus, it is determined if the request is associated with the application and it is done at the data processing system (server) executing the application. Again, as discussed above, the cited portion of Alteon discusses a switch that sits between the client and the server(s) that substitutes a virtual IP address for the real IP address of the server (and visa versa). The substitution is transparent to the server. Furthermore, Alteon discusses forwarding packets in the same "session." In particular, "the packets are processed and forwarded appropriately to make sure that the client continues to be associated with the same physical sever for the duration of the session." See Alteon, page 1, Overview, paragraph 3.

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Nothing in Alteon discusses determining if a request is associated with the application. Accordingly, Claim 1 is patentable over Alteon for at least these additional reasons.

The "Response to Arguments" section of the Final Office Action states that "the Examiner finds that the 'application' may be interpreted as the 'session' of Alteon, which runs on both the web switch and the server." See Final Office Action, page 13. Appellants once again point out that the Examiner cannot just "interpret" the reference so that it reads on the pending claims. Furthermore, Appellants respectfully disagree that the application of the present application may be interpreted as the session of Alteon. A session has a very distinct meaning in the art. A session is either a lasting connection using the session layer of a network protocol or a lasting connection between a user (or user agent) and a peer, typically a server, usually involving the exchange of many packets between the user's computer and the server. This definition of a session is clearly what is meant by the use of the term "session" in Alteon, as Alteon discusses that "all subsequent packets belonging to the session undergo the same address substitution process and are forwarded to the same real server until the switch sees a session termination packet." See Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 4. Accordingly, the session of Alteon cannot be interpreted as the application of the present invention as suggested in the Final Office Action for at least the reasons discussed herein.

Finally, Claim 1 further recites establishing the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application. As discussed above, the "Examiner's interpretation" on page 3 of the Final Office Action is improper. As discussed above, the connection in Alteon is not established at the data processing system (server) executing the application, it is established at the switch. Furthermore, Alteon only discusses the virtual IP address incorporated as a source address in the communications used between the switch and the client. See Alteon, page 5, TCP/IP Load-Balancing Operation, paragraph 4 ("the Web Switch intercepts packets traveling from the real server to the client and performs the reverse address substitution. It replaces the real server's actual IP address in the Network Layer source address field with the VIP and forwards each modified frame to the client."). Thus, if the

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connection between the switch and the server is considered the connection established at the data processing system executing the application, there is no use of the VIP between the server and the switch. Accordingly, nothing in Alteon discloses or suggests establishing a connection as recited in Claim 1 for at least these additional reasons.

Accordingly, independent Claims 1, 24 and 26 are patentable over Alteon for at least the reasons discussed above. Furthermore, Appellants submit that the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Therefore, Appellants respectfully request reversal of the rejections with respect to Claims 1, 24 and 26 and the claims that depend therefrom for at least the reasons discussed herein.

B. Dependent Claim 2 is Separately Patentable over the Cited Reference

As discussed above, the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Many of the dependent claims are also separately patentable over the cited reference.

For example, Claim 2 recites "determining if the application has specified a network address for the requested connection" and "utilizing the specified network address to establish the connection if the application has specified a network address." Claim 2 further recites "selectively utilizing the associated dynamic network address as the source address for the connection if the application has not specified a network address for the requested connection." Appellants submit that the cited reference does not disclose or suggest such a selective use of a dynamic network address and a specified network address to originate connections as recited in Claim 2. If a session is interpreted as a connection, then by definition an existing session address cannot be selected to originate a connection as the session already exists. Accordingly, Appellants submit that Claim 2 is separately patentable over the cited references and, therefore, the rejection of Claim 2 should be reversed for at least these additional reasons.

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II. The Section 103 Rejections

As discussed above, Claims 5-13, 15-22, 25 and 27 stand rejected under 35 U.S.C. § 103 as obvious in light of Alteon in view of Locklear. See the Final Office Action, 6. Claims 14 and 23 stand rejected as obvious based on Locklear, Alteon and Applicants' Alleged Admitted Prior Art regarding the OS/390 Sysplex. See Final Office Action, page 11 paragraph 34. With regard to Claims 5, 15, 25 and 27, the Final Office Action cites to pages 1-2 and 5-6 of Alteon and postulates multiple scenarios where the disclosure of Alteon discloses the recitations of Claims 5, 15, 25 and 27. Final Office Action, pages 5-11. However, none of these scenarios disclose the recitations of these claims and further, these scenarios twist and distort the language of the claims and the cited references beyond their plain meaning.

A. Independent Claims 5, 25 and 27 are Patentable over the Cited References

In rejecting Claims 5, 25 and 27, the Final Office Action asserts that, while the client in Alteon originates a connection request, the connection is not established until the application sends a response and, therefore, it would be reasonable to interpret the application as originating the connection, not the client. See Final Office Action, page 6. Appellants submit that interpreting responding to a connection request from a client as originating a connection is not reasonable and ignores the plain language of the claims. In any event, the cited portions of Alteon describe the source address substitution to include the virtual address as the source address of responses from the applications at the switch, not at the data processing system executing the application. Thus, Appellants submit that, even under the incorrect interpretation asserted in the Final Office Action, the cited portions of Alteon do not disclose or suggest "associating a dynamic virtual IP address (DVIPA) with the application at the communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application" as recited in Claims 5, 25 and 27.

The Final Office Action also asserts that the connection may be considered the connection established between the server switch and the back-end server and the application can

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be interpreted as the session running on the server switch. Final Office Action, page 5. However, the virtual IP address incorporated as a source address in the communications is only described as being used between the switch and the client. *See* Alteon, page 5, ("the Web Switch intercepts packets traveling from the real server to the client and performs the reverse address substitution. It replaces the real server's actual IP address in the Network Layer source address field with the VIP and forwards each modified frame to the client."). Thus, if the connection between the switch and the server is considered the connection originated at the data processing system executing the application, there is no use of the VIP between the server and the switch. Appellants submit that even under the second scenario asserted in the Final Office Action, the cited references, therefore, do not disclose or suggest the recitations of Claims 5, 25 and 27.

Furthermore, Appellants are not merely claiming originating requests at application servers but having the application server select a virtual IP address when an application originates the request. There is no indication that the application servers in Alteon are even aware that a virtual IP address is being used, let alone a mechanism for allowing them to include the virtual IP address as a source address in connections that the application server initiates. Appellants do not dispute that servers may originate connections, but Appellants submit that the cited references do not disclose or suggest the recitations of Claims 5, 25 and 27.

The "Response to Arguments" section of the Final Office Action states that Alteon properly anticipates the cited limitation of Claims 5, 15, 25 and 27. For example, Claim 5 recites:

A method of selecting a source address for a connection originated by an Application executing on a data processing system in a cluster of data processing systems,
comprising:
associating a dynamic virtual IP address (DVIPA) with the application at a communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application.

Claims 25 and 27 contain similar recitations. As discussed above, the assignment and substitution of the VIP address of Alteon is performed at the switch in both directions, *i.e.*,

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coming from the client and from the server. The switch, as discussed above, is not part of the cluster of data processing systems as interpreted by the Examiner for at least the reasons discussed above. Thus, nothing in Alteon discloses or suggests associating a dynamic virtual IP address (DVIPA) with the application at a communication protocol stack of the data processing system in the cluster of data processing systems executing the application as recited in Claims 5 of the present application. Thus, Claims 5, 25 and 27 and the claims that depend therefrom are patentable over the cited references for at least these additional reasons.

Accordingly, independent Claims 5, 25 and 27 are patentable over Alteon for at least the reasons discussed above. Furthermore, Appellants submit that the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Therefore, Appellants respectfully request reversal of the rejections with respect to Claims 5, 25 and 27 and the claims that depend therefrom for at least the reasons discussed herein.

B. Independent Claim 15 is Patentable over the Cited References

With regard to Claim 15, Appellants submit that Claim 15 is not disclosed or suggested by the cited references for reasons analogous to those discussed above with reference to Claims 5, 25 and 27. For example, the first interpretation discussed in rejecting Claim 15 is similar to the second scenario discussed above with reference to Claims 5, 25 and 27. Final Office Action, page 9. Claim 15 recites "a communication protocol stack on the data processing system in the cluster of data processing systems executing the application, the communication protocol stack being configured to associate a dynamic virtual Internet protocol address (DVIPA) with the application so that the DVIPA is utilized as a source address for a connection request from the application." As such, Appellants submit that analogous reasoning to that discussed above with reference to Claims 5, 25 and 27 applies and that the connection between the switch and the server in Alteon does not disclose these recitations of Claim 15.

Similar arguments to those made with reference to Claims 5, 25 and 27 may also be made with reference to Claim 15 if the connection request is interpreted as originating at the

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application server. Accordingly, Appellants submit that Claim 15 and the claims that depend from Claim 15 are also patentable over the cited references.

The "Response to Arguments" section of the Final Office Action states that Alteon properly anticipates the cited limitation of Claims 15. As discussed above, the assignment and substitution of the VIP address of Alteon is performed at the switch in both directions, *i.e.*, coming from the client and from the server. The switch, as discussed above, is not part of the cluster of data processing systems as interpreted by the Examiner for at least the reasons discussed above. Thus, nothing in Alteon discloses or suggests associating a dynamic virtual IP address (DVIPA) with the application at a communication protocol stack of the data processing system in the cluster of data processing systems executing the application as recited in Claim 15 of the present application. Thus, Claim 15 and the claims that depend therefrom are patentable over the cited references for at least these additional reasons.

Accordingly, independent Claim 15 is patentable over Alteon for at least the reasons discussed above. Furthermore, Appellants submit that the dependent claims are patentable at least per the patentability of the independent base claims from which they depend. Therefore, Appellants respectfully request reversal of the rejections with respect to Claim 15 and the claims that depend therefrom for at least the reasons discussed herein.

C. Dependent Claims 7 and 16 are Separately Patentable over the Cited References

Appellants submit that each of the dependent claims is patentable at least as depending from a patentable base claim. Appellants submit that many of the dependent claims are also separately patentable over the cited references. For example, recitations regarding the selective use of virtual and specified addresses, discussed above with respect to Claim 2, are also found in, for example, Claims 7 and 16. Accordingly, Appellants submit that these claims are also separately patentable for at least reasons analogous to those discussed above with reference to Claim 2 and, therefore, the rejections of Claims 7 and 16 should be reversed for at least these additional reasons.

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IV. The Section 112 Rejections – Claims 1-4, 24 and 26

Claims 1-4, 24 and 26 stand rejected under 35 U.S.C. § 112 as failing to comply with the written description requirement. *See* Final Office Action, page 2, paragraph 6. In particular, the Final Office Action states: "the original disclosure does not appear to be enabling for the new limitation of *"determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application."* *See* Final Office Action, page 3, paragraph 6 (emphasis in original). For at least the reasons discussed above with respect to the objection to the specification, Appellants respectfully submit that this recitation of Claims 1, 24 and 26 is enabled by the specification. In particular, as stated in the specification:

Operations for initialization of a source address selection module or circuit 62 according to embodiments of the present invention will now be described with reference to Figure 2. As seen in Figure 2, *it may be determined if a configuration specification for a data processing system, for example for a communication protocol stack of the data processing system, includes a statement which identifies a source IP address and one or more application instances which are associated with the source IP address* (block 200). If so, the data processing system associates the application instance(s) and the specified source IP address (block 210). Such associations may be provided on multiple data processing systems and, in fact, the same source IP address may be associated with application instances on different data processing systems.

See Specification, page 18, line 25 to page 19, line 6 (emphasis added). Thus, according to some embodiments of the present invention, the source address selection module 62 of any data processing system, including the data processing system executing the application 63, may be configured to perform the determining step objected to by the Examiner. Accordingly, Claims 1-4, 24 and 26 are enabled for at least these reasons. Accordingly, Appellants respectfully request reversal of the 112 rejections with respect to these claims.

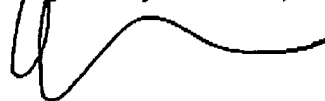
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V. Conclusion

In light of the above, Appellants request reversal of the rejections of the claims, allowance of the claims and passing of the application to issue.

It is not believed that an extension of time and/or additional fee(s) are required, beyond those that may otherwise be provided for in documents accompanying this paper. In the event, however, that an extension of time is necessary to allow consideration of this paper, such an extension is hereby petitioned for under 37 C.F.R. §1.136(a). Any additional fees believed to be due in connection with this paper may be charged to Deposit Account No. 09-0461.

Respectfully submitted,



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APPENDIX A – CLAIMS APPENDIX

1. (Previously Presented) A method of establishing a connection originated by an application executing on a data processing system in a cluster of data processing systems, the method comprising the following carried out by the data processing system executing the application:

associating a dynamic network address with the application at the data processing system on which the application is executing;

determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application; and

establishing the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application.

2. (Original) The method of Claim 1, further comprising:

determining if the application has specified a network address for the requested connection; and

utilizing the specified network address to establish the connection if the application has specified a network address; and

wherein the step of establishing the connection further comprises selectively utilizing the associated dynamic network address as the source address for the connection if the application has not specified a network address for the requested connection.

3. (Original) The method of Claim 2, wherein the step of determining if the application has specified a network address for the requested connection comprises determining if a socket for the connection has been bound to a network address.

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4. (Original) The method of Claim 1, wherein the application comprises one of a plurality of instances of an application executing on the data processing system in the cluster of data processing systems;

wherein the step of associating a dynamic network address with the application at the data processing system on which the application is executing comprises associating a dynamic network address with the one of the plurality of instances of the application at the data processing system on which the one of the plurality of instances of the application is executing; and

wherein the step of determining if a request for the data processing system to originate a connection is associated with the application comprises determining if a request for the data processing system to originate a connection is associated with the one of the plurality of instances of the application.

5. (Previously Presented) A method of selecting a source address for a connection originated by an application executing on a data processing system in a cluster of data processing systems, comprising:

associating a dynamic virtual IP address (DVIPA) with the application at a communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application.

6. (Original) The method of Claim 5, wherein the step of associating a DVIPA with the application comprises:

receiving a connection request for a connection at the communication protocol stack; determining if the connection request received at the communication protocol stack is associated with the application; and

selecting the DVIPA as the source address for the connection if the connection request is associated with the application.

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7. (Original) The method of Claim 6, further comprising:
determining if the application is bound to an IP address; and
selecting the IP address to which the application is bound as the source address if the application is bound to an IP address; and
wherein the step of selecting the DVIPA comprises selecting the DVIPA as the source address for the connection if the connection request is associated with the application and the application is not bound to an IP address.
8. (Original) The method of Claim 7, further comprising:
establishing at the communication protocol stack a predefined association of the DVIPA and the application;
wherein the step of determining if the connection request received at the communication protocol stack is associated with the application comprises determining if the connection request is from the application; and
wherein the step of selecting the DVIPA as the source address for the connection if the connection request is associated with the application comprises selecting the DVIPA as the source address for the connection if the connection request is from the application and a predefined association of the DVIPA and the application has been established.
9. (Original) The method of Claim 8, wherein the step of establishing at the communication protocol stack a predefined association of the DVIPA and the application comprises processing at the communication protocol stack a configuration statement which specifies the DVIPA and an application with which the DVIPA is associated.
10. (Original) The method of Claim 8, further comprising:
determining if the DVIPA is configured for the communication protocol stack; and

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generating an error message if the DVIPA is not configured for the communication protocol stack.

11. (Original) The method of Claim 8, further comprising:
determining if the DVIPA is active on the communication protocol stack;
activating the DVIPA if the DVIPA is not active and if the DVIPA is in a range of DVIPAs specified for the communication protocol stack.
12. (Original) The method of Claim 11, further comprising generating an error message if the DVIPA is not active and is not in a range of DVIPAs specified for the communication protocol stack.
13. (Original) The method of Claim 6, wherein the application comprises an instance of a plurality of instances of an application executing on the data processing system.
14. (Original) The method of Claim 5, wherein the cluster of data processing systems comprises an OS/390 Sysplex.
15. (Previously Presented) A system for establishing a connection between an application and a client, the system comprising:
a cluster of data processing systems;
the application executing on a data processing system in the cluster of data processing systems; and
a communication protocol stack on the data processing system in the cluster of data processing systems executing the application, the communication protocol stack being configured to associate a dynamic virtual Internet protocol address (DVIPA) with the application so that the DVIPA is utilized as a source address for a connection request from the application.

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16. (Original) The system of Claim 15, wherein the communication protocol stack is further configured determine if the application is bound to an IP address, select the IP address to which the application is bound as the source address if the application is bound to an IP address and select the DVIPA as the source address for the connection if the connection request is from the application and the application is not bound to an IP address.

17. (Original) The system of Claim 15, wherein the communication protocol stack is further configured to establish a predefined association of the DVIPA and the application and select the DVIPA as the source address for the connection if the connection request is from the application and a predefined association of the DVIPA and the application has been established.

18. (Original) The system of Claim 17, wherein the communication protocol stack is further configured to establish the predefined association of the DVIPA and the application by processing a configuration statement which specifies the DVIPA and an application with which the DVIPA is associated.

19. (Original) The system of Claim 17, wherein the communication protocol stack is further configured to determine if the DVIPA is configured for the communication protocol stack and generate an error message if the DVIPA is not configured for the communication protocol stack.

20. (Original) The system of Claim 17, wherein the communication protocol stack is further configured to determine if the DVIPA is active on the communication protocol stack and activate the DVIPA if the DVIPA is not active and if the DVIPA is in a range of DVIPAs specified for the communication protocol stack.

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21. (Original) The system of Claim 20, wherein the communication protocol stack is further configured to generate an error message if the DVIPA is not active and is not in a range of DVIPAs specified for the communication protocol stack.

22. (Original) The system of Claim 15, wherein the application comprises an instance of a plurality of instances of an application executing on the data processing system.

23. (Original) The system of Claim 15, wherein the cluster of data processing systems comprises an OS/390 Sysplex.

24. (Previously Presented) A system for establishing a connection originated by an application executing on a data processing system in a cluster of data processing systems, comprising:

means for associating a dynamic network address with the application at the data processing system on which the application is executing;

means for determining at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application; and

means for establishing the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application.

25. (Previously Presented) A system for selecting a source address for a connection originated by an application executing on a data processing system in a cluster of data processing systems, comprising:

a communication protocol stack executing on the data processing system executing the application;

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means for associating a dynamic virtual IP address (DVIPA) with the application at the communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application.

26. (Previously Presented) A computer program product for establishing a connection originated by an application executing on a data processing system in a cluster of data processing systems, comprising:

a computer readable media having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code which associates a dynamic network address with the application at the data processing system on which the application is executing;

computer readable program code which determines at the data processing system executing the application if a received request for the data processing system to originate a connection is associated with the application; and

computer readable program code which establishes the connection from the data processing system executing the application utilizing the associated dynamic network address as a source address for the connection if the request is associated with the application.

27. (Previously Presented) A computer program product for selecting a source address for a connection originated by an application executing on a data processing system in a cluster of data processing systems, comprising:

a computer readable media having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code which associates a dynamic virtual IP address (DVIPA) with the application at the communication protocol stack of the data processing system in the cluster of data processing systems executing the application so as to utilize the DVIPA as the source address for the connection originated by the application.

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APPENDIX B – EVIDENCE APPENDIX
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APPENDIX C – RELATED PROCEEDINGS

(NONE)